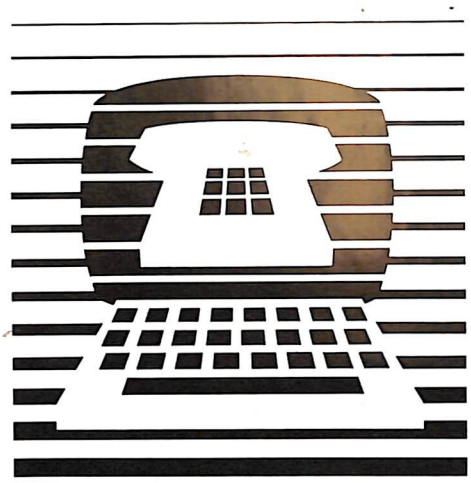
CompuServe Software

VIDTEX™
Disk

Enhanced Terminal Communications for the Commodore 64



CompuServe Software

VIDTEX™ for the Commodore 64

User's Guide

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Introduction

Welcome to the world of videotex and the extensive capabilities VIDTEX brings to your Commodore 64™ system.

VIDTEX Manual

This manual contains easy-to-follow instructions and helpful examples to assist you in using VIDTEX. A technical section and appendices are included for reference.

Customer Support

Please contact CompuServe Customer Service if you have any questions in using this product.

VIDTEX Backup

The VIDTEX software is provided on a diskette. Care should be taken that this diskette is not exposed to heat, dust, high humidity or magnetic interference.

It is recommended that you make a backup copy of the program. Follow these steps to back up VIDTEX:

1. Load VIDTEX by entering:

   ```
   load "vidtex",8
   ```

2. Insert a formatted diskette

3. Save VIDTEX by entering:

   ```
   save "vidtex",8
   ```

Equipment Requirements

The minimum system configuration for using VIDTEX is:

- Commodore 64 computer
- one serial disk unit, 1541 System
- user port-based modem such as the VICMODEM
- a television set or video monitor

You can fully utilize the features and capabilities of VIDTEX by using the following additional items:

- a Commodore serial printer or equivalent
- Commodore 1650 Automodem™ or equivalent
- an additional disk drive

Program Overview

VIDTEX is a sophisticated terminal program that enables your computer to be fully compatible with the CompuServe Information Service and other host computer systems.

VIDTEX provides the following powerful features:

RAM Buffer
The RAM buffer is a segment of your computer's memory that can be controlled by special commands. Using the RAM buffer controls you can capture information received from the host computer and save it to disk or printer. The buffer can hold up to 32,000 characters of information.

Printer Control
You can get printed copy of information received from the host computer.

Function Keys
You can define the number keys (0-9) with any frequently typed commands. Definitions can be saved to disk and new sets of definitions loaded into the function keys at will.

Video Special Effects
VIDTEX responds to commands from the host computer that employ color graphics and cursor positioning for creating special video effects. (Refer to ESCAPE Sequences.) Moreover, you can select among 16 colors for regular screen displays.

Automatic Logon
By creating and executing special AUTOLOG files, you can automate logon, on-line menu navigation and logoff.

Error Free File Transfer
You can protect important files from interference during transfers between your computer and CompuServe by using VIDTEX's exclusive "B" Protocol.

Operating Controls

VIDTEX provides two classes of command keys, META and CONTROL.

META Key
The META key performs VIDTEX operations on your computer. The Commodore C= key functions as the META key. By holding down the Commodore key and pressing an appropriate letter key, you can operate such VIDTEX features as the RAM buffer and printer output. META keys, in most cases, do not transmit anything to the host, but are used for local functions.

For example, to open the RAM buffer and begin capturing data, press **META O** (hold down the Commodore key and press the letter "O").

Refer to the section on VIDTEX Features for more details on META key functions.

CONTROL Key

The CTRL key functions as the CONTROL key and is used to transmit special commands to the host computer. For example, to temporarily halt transmission from the host, you can press **CTRL S** (hold down the CTRL key and press the letter "S").

Holding the CTRL key does not slow text display as it does in BASIC (see Appendix B for a complete list of CONTROL keys).

Getting Started

The following sections explain how to load and customize VIDTEX and log onto the host computer system.

Loading VIDTEX

First power up your system in the following order:

1. disk drive
2. video monitor
3. computer

Next set your VICMODEM to ORIGINATE mode. If you are using another type of modem, set it to ORIGINATE mode and FULL DUPLEX.

Then insert the VIDTEX diskette into your drive and enter:

```
load "vidtex",8
```

The BASIC "ready" prompt reappears on your screen when VIDTEX is loaded.

Program Customization

A BASIC program is used to initiate execution of VIDTEX. This BASIC program may be modified for your specific equipment. In most cases, however, you can simply skip this section and run VIDTEX without any customization (see Running VIDTEX).

If any values of the BASIC program need to be changed, simply list the program, position the cursor at the value, type in the new entry and press **RETURN**. The listing contains helpful comments that indicate which lines may need modification and the possible selections.

Caution: Be careful not to insert or delete any character or space position in the listing as this will cause the program to fail.

To list the program enter:

```
list
```

The following is a sample of what is displayed:

```
0 rem "Vidtex for the Commodore 64"
1 rem"Copyright (C) 1983 CompuServe Inc."
2 poke xxxxx, x : rem number of send-ahead pages
3 poke xxxxx, xxx : rem number of columns on printer
4 poke xxxx, x : rem non-zero if printer needs linefeeds
5 poke xxxx, x : rem printer device number
6 poke xxxx, x : rem printer secondary address
7 poke xxxxx, xx : poke xxxxx, xx : poke xxxxx, xx : rem
  char,border,back
8 poke xxxxx, x : rem zero if no carrier detect provided on cable
9 poke xxxxx, x : rem zero if vicmodem, one if rs-232 interface
10 sys xxxxx

ready.
```

The following describes the purpose of each line in the listing:

Line	Function
0-1	Descriptive header.
2	Controls the number of SEND-AHEAD pages. A SEND-AHEAD page is a special feature by which the CompuServe host system can store screens of text in the computer's RAM. VIDTEX is initialized to set aside enough RAM for 8 SEND-AHEAD pages (see Send-Ahead Pages in the Advanced Features section before modifying).
3	This line represents the number of columns per line that VIDTEX will output to the printer.
4	This line causes VIDTEX to send a line feed (LF) character to your printer after every carriage return. If you want a LF sent, change the value to one.
5	This line permits you to change the serial bus device number for the printer.
6	This line changes the secondary printer address.
7	You can set the initial color for the border, background and characters with this line. Refer to Screen Color Control for a list of the numbers of each color to be poked.
8	If your cable does not provide carrier detect input, you can disable carrier detection with this line.

9 Set the sense for carrier detection. If you have a VICMODEM, the number poked should be zero; it should be 1 if you are using an RS-232 interface.

10 Executes VIDTEX.

If you change any of the initial values, you can save the modified version to disk under a different file name so that you do not need to make these changes again. To save the new values, enter:

```
save "filename",8
```

Running VIDTEX

Now that VIDTEX has been customized to your system, execute the program by entering:

```
run
```

The following will appear on your screen:

```
CompuServe
VIDTEX

CompuServe Executive V.V MM/YY

Press Commodore
 and M for Function Menu
 and H for Key Definitions
```

The "Function Menu" and "Key Definitions" are explained in the following sections.

Depending on the type of modem you are using, the following message may be displayed:

```
** Data Carrier Lost **
```

This message indicates that contact with the host computer system has not been established yet. Once you access a host system, VIDTEX displays:

```
** Data Carrier Present **
```

META Function Menu — META M

To assist you in operating VIDTEX, you can display a list of the META key functions by pressing **META M** (hold down the C= key and press the letter "M"):

```
                    META Key Functions

Ram Buffer                      G Get Screen
O Open                          C Close
Z Zero                          L Load
D Display                       P Print
S Save                          U Unedited Save
V Transmit                      Y Transmit W/Prompt
Used: 00000                     Free: xxxxx

Local Control
E Enable Clean                  B Break Words
R Printer On                    T Printer Off
: Print Screen                  CLR Clear Screen

Miscellaneous                   X Exit
A Abort                         F Function Keys
H Help                          M Menu
I New Logon                     J Old Logon
N Scratch File                  * Catalog
Q Query/Set Status
@ Dial CBM AUTOMODEM
Press your choice
or <RETURN> for terminal mode
```

While the menu is on your screen, you can initiate any META function by simply pressing the appropriate letter; you do not have to hold the META key.

To abort most META functions, press **META A**. **META A** cancels any function key or RAM buffer transmission. To abort the creation of a new automatic logon (AUTOLOG) file, press **META A** at the file name prompt. However, once the file is entered, it can only be exited in the normal fashion.

"Used:" represents the number of characters currently stored in your RAM buffer; "Free:" indicates remaining buffer space.

Note: In performing various functions, VIDTEX reads and creates disk files. In order for VIDTEX to properly identify files, all file names must be specified in lower case. VIDTEX can only access lower case file names.

Help Page — META H

Besides the META Menu, VIDTEX also provides a handy reference guide of redefined keys. Press **META H** for the Help Page:

```
                KEY DEFINITIONS

CTRL                    Control key
COMMODORE               META key

RUN/STOP                Control C
English Pound           Escape
CRSR down               Line Feed
CRSR right              Tab
INST/DEL                Backspace

      CTRL and ! =      |
                (       {
                )       }
                -       ~
              POUND     \
            INST/DEL    Delete

            F 1 to F 8  Function Keys 1 to 8

Local Color Control
      META and ,        Text
                .       Background
                /       Border
Key <RETURN> for terminal mode
```

If any key is held down for two seconds, it will repeat automatically.

*Note: Pressing **META Run/Stop** causes a BREAK sequence of 250 milliseconds to be transmitted. This is used on some systems as an attention signal.*

Communication Parameters

VIDTEX is initialized to the following communication parameters:

- full duplex
- 300 baud
- flow control on
- 8 bit word
- parity bit zero
- 1 stop bit
- disk drive is device 8

These are the correct parameters for accessing CompuServe. You can use **META Q** to change these settings for other host systems (see Communications Settings).

Logging On

Follow these steps to log onto CompuServe through the CompuServe Network:

1. Dial the local access phone number.

2. When you hear the high pitched tone, connect the telephone to the modem.

3. Initiate contact with the CompuServe Network by pressing **RETURN** or **Run/Stop**.

4. CompuServe prompts (your response is in upper case):

   a) Host Name:CIS
   and/or
   User ID:YOUR USER ID

   b) Password:YOUR PASSWORD

Check the "Logon Procedures" sheet that came in your CompuServe startup kit if you are accessing through another network.

On-Line

Once you connect to the host computer, a host information banner and possibly a menu are displayed on your screen. For example, the following is displayed when you access the CompuServe Information Service:

```
CompuServe Information Service

12:08 EDT Saturday 20-Aug-83

CompuServe                    Page CIS-1

CompuServe Information Service

1 Home Services
2 Business & Financial
3 Personal Computing
4 Services for Professionals

5 User Information
6 Index

Enter your selection number, or H for more information.
!
```

Terminal Type

If this is the first time that you have accessed the host system using VIDTEX, you may need to inform the host of your communication parameters. Without this information, the host may transmit data in a form incompatible with VIDTEX.

For example, to inform the CompuServe Information Service that you are using VIDTEX, enter the following at the "!" prompt on Page CIS-1:

```
GO CIS-9
```

The following will be displayed on your screen:

```
        Welcome to DEFALT

1 Instructions
2 Setting Your Terminal Type
3 Setting Your Logon Actions
4 Setting Delays for Printers
5 View or Change Current
     Terminal Parameters
6 Exit DEFALT

Last Menu Page. Key digit or M for previous menu.
!
```

Select option 2 (Terminal Type) and specify on the subsequent menu page that you are running VIDTEX. See the CompuServe Information Service User's Guide for more information on using DEFALT.

Logging Off

When you have completed an on-line session, you must inform the host that you wish to log off. To log off of CompuServe, simply enter the following at any menu page:

```
OFF
```

Avoid terminating contact with the host by simply disconnecting the modem. In many cases your job on the host computer will continue to incur connect time charges if not logged off properly.

Exit VIDTEX — META X

META X exits VIDTEX and returns the computer to the BASIC power-on state. To prevent an accidental exit, VIDTEX displays:

```
Exit (Y/N)?
```

Pressing "N" will return VIDTEX to terminal mode with no loss of incoming data. Press "y", the space bar or **RETURN** to exit to BASIC.

VIDTEX Features

VIDTEX provides you with many powerful features that enable you to effectively use CompuServe and other host systems. These features are described in the following sections.

RAM Buffer Controls

The following META key functions enable you to capture and manipulate information using your computer's RAM buffer.

Open Buffer — META O

VIDTEX enables you to save a copy of all characters received in the unused portion of your buffer.

The RAM buffer is empty and closed when VIDTEX is first run. To open the buffer and start saving data, press **META O**. All subsequently received characters are added to the buffer.

To confirm that the buffer is open, VIDTEX displays:

```
** RAM Buffer Open **
```

This message is not sent to the host computer.

Close Buffer — META C

Close the RAM buffer by pressing **META C**.

VIDTEX displays the local message:

```
** RAM Buffer Closed **
```

Zero Buffer — META Z

You can zero (erase) the buffer by pressing **META Z**.

VIDTEX displays:

```
** RAM Buffer Zeroed **
```

Buffer Status

By pressing **META M** (META Menu) and reading the USED and FREE numbers you can check the status of the RAM buffer.

If the RAM buffer becomes full, VIDTEX displays a message and halts transmission from the host. This gives you an opportunity to save and zero the buffer. Press **CTRL Q** (hold down the CTRL key and press the letter "Q") to resume transmission. If you press **CTRL Q** without zeroing the buffer first, transmission resumes but the buffer will be closed.

Save Screen — META G

A copy of the screen can be added to the buffer by pressing **META G** (get screen). As each line from the screen is copied to the buffer, a carriage return and line feed (CR/LF) are appended to the line. If a line is entirely blank, only a LF is added. Thus the format of the screen is retained.

This feature does not open or close the buffer.

Display Buffer — META D

You can display the contents of the buffer by pressing **META D**.

The following keys enable you to control the display:

CTRL S - stop display immediately

CTRL A - stop at end of line

CTRL Q - resume display

CTRL O - cancel display

When the display is done, press **RETURN** to continue.

Print Buffer — META P

You can print the current contents of your RAM buffer by pressing **META P**.

*Note: This function may not display the contents of the RAM buffer properly if any cursor control sequences are stored in the buffer (see Cursor Control Sequences). Instead use **META/COLON** (screen print) to print such information.*

Press **META A** to abort buffer print.

Save Buffer To Disk — META S and META U

VIDTEX provides two ways to save the buffer to disk, edited and unedited.

Edited The edited save converts standard ASCII text data in the buffer to a form compatible with the Commodore serial printer and for processing by word processors.

Press **META S** to initiate an edited save. VIDTEX prompts for a file name and then saves the contents of the RAM buffer to that file. Refer to **META S** Editing for how the buffer is edited.

Note: When a full buffer is saved with editing, it may end up too big to reload into VIDTEX. Also, the text is saved in the current text color.

Unedited Press META U to save an unedited copy of the buffer to disk. This method of saving should be used for text that you wish to view later using VIDTEX.

To abort, press META A at the file name prompt.

Load Buffer From Disk — META L

You can load the buffer from disk by pressing META L. The program prompts for the name of the file from which to load.

During a buffer load, the data in the file is appended to the current contents of the buffer. Text is inserted into the buffer until the buffer is full. If the buffer becomes full during the load, an error message will be displayed. In this case, press RETURN to continue.

Press META A at the file name prompt to abort.

Transmit Buffer — META V and META Y

You can transmit the contents of the RAM buffer continuously by pressing META V. Abort with META A.

If you only want to send one line at a time, press META Y. VIDTEX asks for a prompt character such as a "!". After a line has been transmitted, VIDTEX waits for the host to send the prompt character before transmitting the next line.

For example, to transmit a message to a typical bulletin board, compose the message off-line. (The message must be in standard ASCII.) Load the message file into your buffer (using META L) and access the bulletin board.

A typical prompt from a bulletin board program might be:

```
Enter your message. Use a blank
line or CONTROL Z to end message.

1:
```

At this point press META Y, and VIDTEX responds:

```
Enter Prompt Character:
```

Enter a colon (:) since this bulletin board prompts each line with a number followed by a colon. Your message then is transmitted one line at a time. After each line has been transmitted, VIDTEX waits for the colon to be received before sending the next line.

Abort with META A.

Printer Controls — META R and META T

If you have a Commodore serial printer or equivalent connected to your computer, you can use it to obtain hardcopy of received information (including graphic characters) with VIDTEX.

Each time a line is printed, a CTRL S is sent automatically to the host, the line is sent to the printer, and finally a CTRL Q is sent to tell the host to continue. This process may lengthen your terminal sessions, but assures reliable printed information.

To toggle your printer on or off, press:

META R - ON

META T - OFF

Screen Print — META COLON

You can get a printed copy of the entire screen at any time by pressing META : (colon). If the screen print function appears not to work, check if the printer is ready. VIDTEX does not display an error message if the printer is not ready since the message would destroy part of the screen.

Error Free File Transfers

You can transfer files directly between your system and CompuServe using "B" Protocol transfer.

"B" Protocol ensures the accuracy of the transmitted file by detecting and correcting any errors which occur. Thus your important files are protected against possible damage from telephone line noise and other types of interference.

How To Use "B" Protocol Transfer

The procedure to perform a file transfer on CompuServe is described below. A few terms must first be defined in order to explain file transfers:

Download means to transfer a file from CompuServe to your computer.

Upload means to transfer a file from your computer to CompuServe.

Host refers to CompuServe's computers.

Remote refers to your computer.

Three types of file tranfers may be performed:

TEXT
MACHINE SPECIFIC
BINARY

For both an upload and a download, the CompuServe file extension determines the type of transfer performed. The valid extensions and transfer types are:

.TXT	Text transfer
.IMG	Machine specific transfer
.BIN	Binary transfer

If any other or no extension is used, a TEXT transfer is performed.

A TEXT transfer is used to transfer ASCII text files such as untokenized BASIC programs and text files. When uploading a text file, VIDTEX translates from the remote computer's character representation to standard ASCII. This usually includes adding line feeds to carriage returns. When a text file is downloaded, VIDTEX translates the text from standard ASCII to the microcomputer's character representation.

A MACHINE SPECIFIC transfer is used to transfer machine dependent files. This method is preferred over binary transfer since it transfers files specific to the Commodore 64.

During a machine specific transfer, VIDTEX inserts all of the information it needs to recreate the file exactly as it originally existed. If an attempt is made to download a machine specific file to a microcomputer which is of a different type from the microcomputer from which the file was uploaded, VIDTEX will issue a warning message. Machine specific transfers can be used to transfer files that have information kept outside of the file (usually in the disk directory) that is essential to the file. This type of transfer supports Commodore program (PGM) and sequential (SEQ) files.

A BINARY transfer is used to transfer eight bit files such as tokenized BASIC programs and machine language programs. This can also be used to transfer most microcomputer's BASIC data files. VIDTEX does not alter any data during a binary file transfer. Machine specific information is not included in a binary transfer.

One way to initiate a file transfer is to enter at the CompuServe Programming Area (OK) prompt:

```
R FILTRN
```

CompuServe then responds:

```
CompuServe File Transfer Program
```

Your machine then is interrogated to see if you are running a version of VIDTEX which supports file transfers. If you are not running a VIDTEX program or if your version of VIDTEX does not support file transfers, an error message is printed and you are returned to the 'OK' prompt. If you are running a version of VIDTEX which supports file transfer, you are asked for the direction of the transfer:

```
Select direction-
      D if to your computer
      U if to CompuServe
:
```

Enter a U to upload or D to download. You then are prompted:

```
Enter the CompuServe file name:
```

Enter an appropriate file name and extension. Remember that the file extension determines the type of transfer performed. For a download this is the name of the existing file to be transferred to your microcomputer. For an upload this is the name of the file to be created. You then are prompted:

```
Enter a file name for your computer:
```

Enter the file specification as required by your operating system. You can specify any file following the naming rules of your system. This might include a drive designation, a file name extension, punctuation, or a password.

When using machine specific transfer, the file type is handled automatically by VIDTEX. However, when using binary or text transfer, the default Commodore file type is sequential (SEQ). To specify a program file (PGM), append ";p" after the normal file name. For example, the file "game" would be downloaded as a sequential file, but "game,p" would be downloaded as a program file.

Since the format for file names is different for every microcomputer, no syntax checking is performed on the remote file name. The remote file name does not affect the type of transfer performed.

VIDTEX will not overwrite an existing file on a download; you must first delete the file yourself.

The file transfer then begins. As the transfer proceeds, a series of digits is displayed on your screen. Plus signs (+) appear between the digits.

When the transfer is completed, the message:

```
** File Transfer Completed! **
```

appears and you are returned to the 'OK' prompt.

To abort a file transfer, hold **META A** until the next digit appears on the screen.

Services Using "B" Protocol Transfer

"B" Protocol transfer also is used in many other CompuServe services that require the accurate transfer of data. These include:

- MicroQuote™ is a series of programs for retrieving and storing current and historical stock data. Over 40,000 issues are represented in the historical database which contains quotes back to January 1, 1974.

  The MicroQuote program, MQDATA, automatically stores stock information into a file which you can download using "B" Protocol.

- SOFTEX™ is an on-line software shopping service. You can purchase reasonably priced programs and download them directly to your computer for immediate use. "B" protocol ensures the reliability of your purchase.

- ACCESS™ is a database program used for facilitating the exchange of customer supplied software.

- QTRAN™ is a program that will take a VisiCalc® file in DIF format and convert it into a batch input file for QUBIT®. QTRAN is available to commercial CompuServe customers only.

Use of "B" Protocol transfer in these services is automated; you do not need to issue any special commands.

Function Keys

Frequently typed commands can be programmed into function keys, thus saving you time and effort.

The number keys (0-9) in conjunction with the META key can be used as function keys. The function keys on the right side of your keyboard (F1-F8) are equivalent to **META 1** through **META 8** and also may be used.

Your function key definitions can be saved to a file for future use. Any number of definition files can be created and used to load your keys. By loading different definition files for different needs, you can have a virtually unlimited number of function keys.

Define Function Keys — META F

The function key menu can be accessed by pressing **META F**:

```
Enter D to display the function key definitions
or L to load definitions from disk
or S to save definitions to disk
or the key to define (0-9):
```

Press the key you wish to define (0-9). If you select a key that already has a definition, the existing definition is erased. You then type in your new definition. To end the definition, press **META F** again.

To clear a definition, simply select it for defining and immediately press **META F**.

The total number of characters for all the function key definitions cannot exceed 255.

Most host computers do not process a line until they receive a carriage return character. Thus command lines in function keys should be terminated with **RETURN**.

Execute Function Keys — META 0-9

To execute a function key, hold down the META key and press the number of the key. This initiates transmission of the key definition. Press **META A** to abort transmission of a function key.

Remember that the function keys on the right side of the keyboard (F1-F8) may be used in place in of **META 1** through **META 8**; you do not need to press the META key.

Display Function Keys

To display the current definitions, press **META F** and select the display option (D). Each key number will be displayed followed by a colon and the key definition.

While the function keys are displayed, you can press the number of the key to execute it; you do not need to press the META key with it. Press **RETURN** for terminal mode or "F" for the function key menu.

Save Function Keys

To save a set of function key definitions, press "S" at the function key menu. You are prompted for a file name.

Press **META A** at the file name prompt to abort.

Load Function Keys

Press "L" at the function key menu to load a set of definitions. VIDTEX prompts for the file name.

When VIDTEX is run, the function keys are loaded automatically from the file "vidtex keys" if it exists.

To abort a load, press **META A** at the file name prompt.

Automatic Logon

VIDTEX enables you to automate the host access process. Automatic logon is accomplished by creating and executing special files, called AUTOLOG files, that can contain all the information necessary for accessing the host computer.

Create Autolog — META I

Press **META I** to create an AUTOLOG file. VIDTEX prompts you as follows:

```
Creating New Auto Logon
Enter file name:
```

VIDTEX prompts first for the name of the AUTOLOG file. Enter a file name using BASIC naming conventions. You can abort the process at this point by pressing **META A**.

```
Prompt:
```

Enter the prompt to wait for from the host. The maximum length for a prompt from the host is 64 characters. It is recommended that only the last 3-5 unique characters be entered. You can use upper or lower case since VIDTEX translates both your entry and the received characters to upper case for matching.

If you are preparing an AUTOLOG to access through the CompuServe Network, press **RETURN** or ESCAPE (£) since the network does not send an initial prompt.

```
Response:
```

Enter the response to transmit and press **RETURN**. The carriage return will be transmitted with the response. If you do not want a carriage return transmitted, press ESCAPE instead.

The maximum length of a response is 64 characters. A response of more than 64 characters can be transmitted by entering the response in two or more parts, each less than 64 characters, and pressing ESCAPE at each intervening prompt.

If you are preparing an AUTOLOG for accessing through the CompuServe Network, you can store a **CTRL C** at this point by pressing the UP ARROW key and then the letter "C". Terminate the response by pressing ESCAPE. (Use this method of generating a **CTRL C** for AUTOLOG files only.)

The PROMPT/RESPONSE sequence can be repeated as many times as is necessary to complete the logon. To exit the sequence, enter ESCAPE at both PROMPT and RESPONSE.

Special Autolog Commands

META commands are entered into an AUTOLOG by pressing the LEFT ARROW key and then the letter or special character. For example, to enter the META command for opening the RAM buffer, you press the LEFT ARROW key and then press the "O" key. (The LEFT ARROW is represented in the following explanations as "←".)

The following META commands can be used in creating an AUTOLOG file:

META & Provides a one half second delay.

META % Provides a two second delay.

META + Delays 2 seconds after carrier is detected.

META – Delays until carrier is lost.

META & (ampersand) and **META %** (percent) are useful for creating dialing strings for modems that require a delay between dialing each digit in the phone number.

META + (plus) and **META –** (minus) can be used to ensure that contact with the network has been made, and for logging onto two or more hosts within the same AUTOLOG.

Note: These META commands can only be entered within an AUTOLOG file and are not available at the META Menu.

A single UP ARROW character is entered into a RESPONSE by pressing two consecutive UP ARROWs. Similarly a single LEFT ARROW is entered by pressing two consecutive LEFT ARROWs.

Using the Commodore Automodem — META @

The Commodore 1650 Automodem can be used to dial a phone number by pressing **META @** (at sign). The following message will be displayed:

```
Set H-F Switch to F, T-D to D, D-A to D
Enter Phone Number:
```

When using the Automodem with VIDTEX the following switches must be set:

- The Full/Half Duplex switch must be set to "F" for full duplex.
- The Telephone/Data switch should be set to "D" for data when using your modem. For best results, the switch should be set to "D" just prior to dialing the phone number.
- The Originate/Answer switch must be set to "O" for Originate to allow your modem to originate contact with the host computer.

To dial the phone number, simply type in the number at the prompt. A delay of one second can be obtained by entering the letter "P", a comma or an asterisk into the phone number. All other characters are ignored. A sample phone number follows:

```
Enter Phone Number: 1P(614)P457-8650
```

The number is entered by pressing **RETURN**. VIDTEX will now dial the number displaying each digit as it is dialed. When dialing is complete, VIDTEX will return to terminal mode. To exit dialing mode, press **META A**. Note that the phone will still be off the hook.

After disconnecting from the host be sure to set the Telephone/Data switch back to "T" to reactivate your telephone.

Autolog Examples

A sample AUTOLOG creation sequence to log on to CompuServe is shown below.

Creating New Auto Logon
Enter file name: compuserve auto
(Select the file.)

Prompt: ⟨ESCAPE⟩
(Don't wait for prompt, transmit immediately.)

Response: ^C⟨ESCAPE⟩
(Transmit a CONTROL-C with no carriage return.)

Prompt: ID:
(Wait for 'USER ID:'.)

Response: 71234,567
(Then send '71234,567'.)

Prompt: word:
(Wait for 'PASSWORD:'.)

Response: SECRET
(Then send 'SECRET'.)

Prompt: !
(Wait until menu prompts for input.)

Response: GO HOM-1
(Transmit 'GO HOM-1'.)

Prompt: ⟨ESCAPE⟩
(Terminate the input sequence by entering no prompt and no response.)

Response: ⟨ESCAPE⟩

The following autolog file could be used to log onto CompuServe using a D.C. Hayes Smartmodem™. (Refer to your modem manual for instructions on creating a dialing string for your modem. Some modems may not be compatible.)

Creating New Auto Logon
Enter file name: smartmodem auto
(Assign file name.)

Prompt: ⟨ESCAPE⟩
(Don't wait for prompt, transmit immediately.)

Response: AT DT555-1234
(Program the Smartmodem to dial 555-1234 using tone dialing.)

Prompt: CONNECT
(Wait for connection.)

Response: ← %^C⟨ESCAPE⟩
(Delay for two seconds and transmit CONTROL C without carriage return.)

Prompt: ID:
(Wait for "USER ID:".)

Response: 71234,567

Prompt: word:
(Wait for "PASSWORD:".)

Response: SECRET

Prompt: ⟨ESCAPE⟩
(Exit AUTOLOG.)

Response: ⟨ESCAPE⟩

For more AUTOLOG examples see Advanced Features later in this manual.

Execute Autolog — META J

After you create an AUTOLOG file, you can execute it by pressing **META J**. VIDTEX prompts:

```
Old Autolog
Enter file name:
```

If you press **RETURN** by itself, VIDTEX will execute "vidtex auto" if it exists.

If you are using a non-dialing modem, be sure to wait until you have established telephone contact with the host before executing the AUTOLOG.

You can type on the keyboard during execution of an AUTOLOG without affecting its execution. VIDTEX exits the AUTOLOG mode when all PROMPTS are found and RESPONSES sent.

Press **META A** to abort execution of an AUTOLOG.

Other Features

The following META key functions provide you with additional capabilities.

Color Control

You can change your screen colors for text display with the following commands:

META . (period) Changes color of subsequent characters; The color of text that has been displayed already remains unchanged.

META , (comma) Changes background color.

META / (slash) Changes border color.

META CLR Clear screen.

The color to which the screen changes is determined by the following table:

0	Black	8	Orange
1	White	9	Brown
2	Red	10	Light Red
3	Cyan	11	Dark Gray
4	Purple	12	Medium Gray
5	Green	13	Light Green
6	Blue	14	Light Blue
7	Yellow	15	Light Gray

When you change a color, the new color will be the next color in the table. For example, if the current background color is black, pressing **META** . (period) will change it to the next color in the table, in this case, white. Similarly, if the current color were light gray, the new color would be black.

Communication Settings — META Q

META Q enables you to query and set the communications characteristics of VIDTEX. With this feature, you can adjust VIDTEX to be compatible with host systems using different conventions. For information on a particular host system's communication conventions, consult the user's guide for that system.

Pressing a **META Q** displays the following menu:

```
1 Duplex        F
2 Baud          6
3 Flow          Y
4 Parity        O
5 Stop Bits     1
6 Disk Num.     8

Key <RETURN> for terminal mode
```

Select the option you want to change by typing the number next to it; you do not have to press the **RETURN** key. The cursor then will move over the current value of the select parameter. Type in the new value for the parameter and press **RETURN**. The communications parameters you selected will be put into effect.

The following are valid values for the communication parameters:

Duplex
- F - Full duplex
- H - Half duplex

Duplex refers to the echoing of your keyboard entries to your video screen. Full duplex means that VIDTEX will not echo your keyboard entries to the screen. When you access CompuServe, keyboard echo is handled by the network.

Half duplex means that VIDTEX will echo your keyboard entries. If you are using 1200 baud, you may want to use half duplex during automatic transmissions such as function keys and RAM buffer transmit. Using half duplex reduces the possibility of communication errors. (Refer to Using Half Duplex with CompuServe for details.)

All ESCAPE characters transmitted are displayed as "$" in half duplex to aid readability.

Modem Baud Rate
- 1 - 50 Baud
- 2 - 75 Baud
- 3 - 110 Baud
- 4 - 134.5 Baud
- 5 - 150 Baud
- 6 - 300 Baud
- 7 - 600 Baud
- 8 - 1200 Baud

Flow Control
- Y - Enable flow control
- N - Disable flow control

Flow control refers to whether VIDTEX recognizes the standard ASCII flow control characters, **X-OFF** (**CTRL S**) or **X-ON** (**CTRL Q**). If VIDTEX receives an **X-OFF** from the host, it will halt transmission. If an **X-ON** is not received in approximately 5 seconds, transmission is resumed.

VIDTEX expects the host to observe the same rules. Instances where VIDTEX may send the host an **X-OFF** are:

- RAM buffer is almost full
- a VIDTEX function menu is selected

If the host does not respond to flow control, characters may be lost.

Parity
- 0 - Set parity bit to zero
- 1 - Set parity bit to one
- E - Even parity
- O - Odd parity
- D - Disable parity

Stop Bits
- 1 - Use one stop bit
- 2 - Use two stop bits

Disk Num.
- 8 - Device 8
- 9 - Device 9

The disk number parameter enables you to change the device number of your disk drive(s). Valid disk device numbers are 8 or 9. This parameter is useful if you have a second disk drive and wish output to be sent to it. This parameter cannot be changed from an AUTOLOG file.

When you have finished making all changes, press the **RETURN** key to continue. The communications parameters you selected will be in effect.

Below is a table of the communication conventions of popular host systems:

	CompuServe	**The SOURCE**	**Dow Jones**
Parity	Zero	Even	Even
Duplex	Full	Full	Full
Flow Control	Yes	No	No
Baud Rate	110-1200	110-300	110-300

Enable Word Cleaning — META E and META B

VIDTEX contains a video driver that allows it to perform cursor control remotely and not break words across lines.

VIDTEX will not start a word on the right hand edge of the screen and finish it on the beginning of the following line. Instead, the entire word will be moved to the start of the next line and any part of the word which was on the previous line will be erased. This makes it easier for you to read text which is wider than your screen width.

META B breaks words; word cleaning can be enabled with **META E**.

If word cleaning is disabled, text would be displayed as follows:

```
Now is the time for all very good progra
mmers to come to the aid of their countr
y.
```

If cleaning is enabled, this would be displayed as:

> Now is the time for all very good
> programmers to come to the aid of their
> country.

Delete File - META N

You can delete (scratch) any file on your drive with a lower case name by pressing **META N**. VIDTEX prompts you for the specific file name. Press **META A** at the file name prompt to abort.

*Note: **META N** only deletes files with lower case names. Files with upper case names cannot be deleted because VIDTEX converts all file names entered from the keyboard to lower case before accessing the disk.*

Disk Catalog — META *

You can get a list of files on your disk drive by pressing **META** * (asterisk). VIDTEX displays one file name and its file type per line.

To pause the listing, press any key. Press any key to resume the catalog. When the catalog is complete, press **RETURN** for terminal mode.

Abort with **META A**.

Advanced Features

The following sections explain VIDTEX's advanced features.

Send-Ahead Pages

A SEND-AHEAD page is a special VIDTEX feature that allows the CompuServe host to store screens of text in your computer's RAM. Once a SEND-AHEAD page is stored in RAM, the host can request that it be displayed instantly on your screen. Certain services on CompuServe use this feature as a way to provide convenient reference to maps, menus and other pages.

Line 2 of the BASIC program (see Program Customization) enables you to specify the amount of RAM to be used for SEND-AHEAD pages. In setting a value for SEND-AHEAD pages, consider the following:

- You can set the number of SEND-AHEAD pages to 2, 4, 6 or 8. It must be an even number greater than zero. Setting the value to less than 8 may cause some CompuServe SEND-AHEAD services not to use this feature.

- Your computer has a limited amount of RAM. The more RAM devoted to SEND-AHEAD pages, the less available for buffer storage. Thus, you can increase your buffer capacity by decreasing the number of SEND-AHEAD pages.

  For example, VIDTEX initially reserves RAM for 8 SEND-AHEAD pages, leaving a buffer space of approximately 23K. You can increase the buffer to approximately 32K by specifying 2 SEND-AHEAD pages.

Advanced Autolog Files

Because of their PROMPT/RESPONSE structure, AUTOLOG files are ideally suited for handling on-line menu navigation. Moreover, CONTROL and META commands can be coded into an AUTOLOG, thus enabling you to capture data and perform other functions automatically.

To create an expanded AUTOLOG file, continue the PROMPT/RESPONSE sequence. For example, the following AUTOLOG could be used to access MegaWars, the interactive space war game:

(see Autolog Examples for logon portion)

.
.
.

Prompt: !
(Wait for CompuServe top menu prompt.)

Response: GO GAM
(Go the games menu page.)

Prompt: !
(Wait for the menu prompt.)

Response: 10
(Select "MegaWars" (menu choice 10).)

Prompt: !
(Wait for introduction page.)

Response: 2
(Enter game (menu choice 2).)

Prompt: ⟨ESCAPE⟩
(Exit AUTOLOG)

Response: ⟨ESCAPE⟩

On-line Navigation

A knowledge of the prompts encountered on-line is necessary for creating an expanded AUTOLOG.

The following are examples of common prompts on the CompuServe Information Service:

Last menu page. Key digit or M for previous menu.
!

Key S or ⟨ENTER⟩ to continue
!

Issue:

Make a list of the prompts encountered in accessing a particular service and use it as a guide in creating the AUTOLOG file. (This can be accomplished easily using RAM buffer controls.) Also, here are some tips that will help you use AUTOLOGs efficiently on the CompuServe Information Service:

- Only match the exclamation point for CompuServe menu prompts (e.g., Prompt:!).

- Use the GO command wherever possible. GO is a CompuServe menu navigation command that enables you to access any page on the service directly instead of going through menus. The format of the command is:

  GO page

  Specific page numbers can be obtained from the on-line Subject Index (GO IND) or by simply noting a service's page when you access it manually. The GO command can be entered at any CompuServe menu and within many services.

Caution: Page numbers may change occasionally. If you encounter a problem using the GO command, check the on-line Subject Index for the current page number.

These other CompuServe navigation commands also may be useful:

T - Go to CompuServe Main (Top) Menu

M - Back up to previous menu

P - Back up to previous page

OFF - Log off

S - Scroll subsequent text continuously (only works at prompts that specify "Key S or ⟨ENTER⟩ to continue")

^C - Abort and return to CompuServe menu

Storing META and CONTROL Commands

META commands (including function keys) as well as CONTROL characters can be stored in an AUTOLOG file. However, they are generated within AUTOLOGs using different keys:

- To store a META command, press the LEFT ARROW key and then press the appropriate character. The META function will be performed at that particular step when the AUTOLOG file is executed.

- To store a CONTROL command, press the UP ARROW key and then press the desired CONTROL letter.

Hint: Enter the META command to execute a function key for RESPONSES that might change. AUTOLOG files can be created to load the function keys from a file and then transmit the function key as a RESPONSE. If the RESPONSE changes, you only have to change the function key definitions, not the entire AUTOLOG sequence.

Note that the following META functions cannot be performed from an AUTOLOG:

Function	META
BREAK sequence	RUN/STOP
Background color	Comma
Border color	Slash
Text color	Period
Disk device number	Q (parameter 6)

Autolog Chaining

You can initiate the execution of a new AUTOLOG from an already executing AUTOLOG. To set up an AUTOLOG "chain", enter the following at a RESPONSE Prompt:

←J filename

The LEFT ARROW-J is the AUTOLOG equivalent of **META J**; "filename" represents the AUTOLOG file that you want to execute.

When the **META J** is executed, the current AUTOLOG is closed and the specified file is executed. The contents of the first AUTOLOG after the **META J** are ignored.

Advanced Autolog Examples

The following AUTOLOG retrieves the current-day stock quotes automatically from the CompuServe Information Service. The AUTOLOG is programmed to go directly to the Quick Quote program using the "GO" command, open the RAM buffer, request information on H&R Block, exit Quick Quote and log off.

(Logon sequence assumed)

.
.
.

Prompt: !
(Wait for top menu prompt.)

Response: GO FIN-15
(Go directly to Quick Quote.)

Prompt: !
(Wait for introduction prompt.)

Response: **RETURN**
(Send carriage return only.)

Prompt: ISSUE:
(Wait for Quick Quote prompt.)

Response: ← O ⟨ESCAPE⟩
(Open RAM buffer.)

Prompt: ⟨ESCAPE⟩
(Don't wait for prompt.)

Response: HRB
(Request ticker symbol.)

Prompt: ISSUE:
(Wait for Quick Quote prompt.)

Response: ← C **RETURN**
(Close buffer and exit Quick Quote with carriage return.)

Prompt: !
(Wait for menu prompt.)

Response: OFF
(Log off CompuServe.)

Prompt: ⟨ESCAPE⟩
(Exit AUTOLOG.)

Response: ⟨ESCAPE⟩

The following shows how the AUTOLOG might execute:

```
CompuServe Information Service

11:02 EDT Friday          02-Sep-83

CompuServe                Page CIS-1

CompuServe Information Service

1 Home Services
2 Business & Financial
3 Personal Computing
4 Services for Professionals

5 User Information
6 Index

Enter your selection number,
or H for more information.
!GO FIN-15


CompuServe                Page FIN-15

Request Recorded,
One Moment, Please

Thank You for Waiting
```

QQUOTE Sep-83-1983 11:02

These quotes are updated periodically during the day and cover 2 major U.S. exchanges as well as selected OTC. CompuServe does not edit this and is not responsible or liable for its content, completeness, or timeliness.

Each current quote costs .02 in addition to connect time.

Press the ⟨ENTER⟩ key for next page or H for help.
!

Update times:
NYSE Stocks 10:30 09/02/83
AMEX Stocks 10:30 09/02/83
OTC Stocks 10:30 09/02/83
NYSE Bonds 10:30 09/02/83
AMEX Bonds 10:30 09/02/83

Press the carriage return or ENTER key to exit, type ? for instructions, or /HELP for a list of options.

Issue:

** RAM Buffer Open **
HRB
BLOCK H & R INC HRB
09367110

Vol(00)	Hi/ask	Low/Bid	Last
213	43.750	43.125	43.625

Updated: 10:30 Change: + .000
Exch: N 09/02/83

Issue:

** RAM Buffer Closed **

INVESTMENTS & QUOTATIONS

$ 1 MicroQuote
$ 2 Quick Quote
$ 3 Standard and Poor's Analysis
4 Value Line Data Base II
5 Commodity News Service
6 Rapaport ⟨Diamond System⟩

$ Indicates charges in addition
to connect time may be incurred.

Last menu page. Key digit
or M for previous menu.

!OFF

Off at 11:04 EDT 02-Sep-83
Connect time = 0:02

The following AUTOLOG could be used to enter the CB simulator program from any other menu page on CompuServe. The function key file named "cb keys" defines key number 1 to be 'GO CB-XX', where "XX" is the page number of CB, and key number 2 as the handle you want to use while in CB. CB-1 is used for illustration.

Creating New Auto Logon
Enter file name: cb auto
(Select the file.)

Prompt: ⟨ESCAPE⟩
(Don't wait for prompt.)

Response: ← FLcb keys
(Load Function Keys from "cb keys".)

Prompt: ⟨ESCAPE⟩
(Don't wait for prompt.)

Response: T
(Send T for TOP.)

Prompt: !
(Wait until top menu is displayed.)

Response: ← 1⟨ESCAPE⟩
(Transmit Function Key One.)

Prompt: ?
(Wait until CB prompts for handle.)

Response: ← 2⟨ESCAPE⟩
(Transmit Function Key Two.)

Prompt: ⟨ESCAPE⟩
(Terminate the input sequence by entering no prompt and no response.)

Response: ⟨ESCAPE⟩

The following shows how the AUTOLOG might execute. It is initiated by pressing a **META** J and responding with the file name "cb auto".

```
T

CompuServe                    Page CIS-1

CompuServe Information Service

1 Home Services
2 Business & Financial
3 Personal Computing
4 Services for Professionals
5 User Information
6 Index

Enter your selection number,
or H for more information.
!GO CB-1


CompuServe                    Page CB-1

Request Recorded,
One Moment, Please

Thank You for Waiting

CB Simulator Ver 3(51) Band A
What's your handle? (your handle)
(Channel) users tuned in
(1)4 (4)7 (22)20 (33)6
Which channel: 1
(A1,Susana) Hi, CB'er
```

Summary Of Autolog Commands

The following table summarizes the special AUTOLOG commands:

Command	Key	Function
ESCAPE	£	Enters RESPONSE without sending a carriage return; exits AUTOLOG file.
ENTER	RETURN	Enters PROMPT/RESPONSE.
CONTROL	↑ (up arrow)	Makes next character a CONTROL function.
META	← (left arrow)	Makes next character a META function.
META &	← &	Sets 1/2 second delay.
META %	← %	Sets 2 second delay.
META +	← +	Waits for carrier signal.
META –	← –	Waits until carrier is lost.
META @	← @	Dials 1650 AUTOMODEM
META/J filename	← J filename	Chains to specified AUTOLOG File.

Auto Start

You can write your own BASIC programs to automate the startup of VIDTEX and execution of an AUTOLOG. Thus, by entering one command at BASIC level, you can logon, navigate the menus, retrieve data and logoff.

The following conditions must be met to accomplish AUTO START:

1. The key letters "al" must be in memory locations 32512 and 32513 respectively to inform VIDTEX to perform an AUTO START.

2. The length of the AUTOLOG file name must be in location 32514. The name's length can range from 1 to 26 characters.

3. The actual AUTOLOG file name must be stored beginning at 32515.

The following BASIC program illustrates how this can be accomplished:

```
10 al$ = "vidtex auto" : rem auto logon file name to auto-start
20 al$ = "al " + al$
30 for x = 1 to len(al$)
40 poke 32511+x, asc(mid$(al$,x,1))
50 next x
60 poke 32514, len(al$)-3
70 load"vidtex",8 : end
```

Line 10 defines the file name for VIDTEX to auto start upon execution. Lines 20 to 50 insert the key letters "al" and the file name into the proper locations. Line 60 inserts the length of the file name. Line 70 will load and execute VIDTEX. VIDTEX will look in these locations, find the valid information and enter autolog mode using the file name provided in line 10.

VIDTEX Error Messages

Typical Errors

**** No Printer Present ****
Printer is not present.
1) Is printer on?
2) check serial bus connections

?? Disk Error ??
Indicates any number of disk errors. This disk drive provides its own error message text. This text usually will be displayed above this message.

!! Ram Buffer Full !!
The RAM buffer is no longer able to store text. A CTRL S was sent to the host. You may save the RAM buffer contents to disk. To continue, zero the RAM buffer and press CTRL Q.

Unlikely

CRASHED
The program is completely dead. Turn off the machine and start over. This error may occur if you have edited the BASIC initialization program and changed its total length. Technically the 6510 processor executed the "BRK" break instruction.

Technical Information

The following sections provide VIDTEX technical information.

ESCAPE Sequences

VIDTEX responds to certain ESCAPE sequences when received from a host computer. These sequences cannot be performed locally; they must be received from a host.

Keyboard Lock and Unlock

When an ⟨ESC⟩⟨b⟩ sequence is received, VIDTEX will lock the keyboard and not transmit any more characters entered. This condition is reset when VIDTEX receives an ⟨ESC⟩⟨c⟩ sequence. These sequences can be used by a host program that does not want to be interrupted during critical processing.

Video Enable and Disable

When an ⟨ESC⟩⟨e⟩ sequence is received, the video is disabled and subsequent characters are not displayed. The video is enabled again when an ⟨ESC⟩⟨f⟩ sequence is received.

Cursor Control Sequences

VIDTEX allows the host computer to perform screen control functions through ESCAPE sequences. These are remote functions and cannot be performed from the keyboard. The following table summarizes the screen control sequences and the functions they perform. Note the difference between lower and upper case.

⟨**ESC**⟩⟨**A**⟩ Move cursor up one line

⟨**ESC**⟩⟨**B**⟩ Move cursor down one line

⟨**ESC**⟩⟨**C**⟩ Move cursor right one space

⟨**ESC**⟩⟨**D**⟩ Move cursor left one space

⟨**ESC**⟩⟨**H**⟩ Home cursor to the top left corner

⟨**ESC**⟩⟨**K**⟩ Clear from cursor to end of line

⟨**ESC**⟩⟨**J**⟩ Clear from cursor to end of screen

⟨**ESC**⟩⟨**j**⟩ Clear page - same as an ASCII Form Feed

Cursor Positioning

VIDTEX supports remote cursor positioning sequences that allow the host to position text anywhere on the screen. Remember that this is a remote function and cannot be performed from the keyboard. The sequence to do this is:

⟨ESC⟩⟨Y⟩⟨line code⟩⟨column code⟩

where "line code" and "column code" are from the following table:

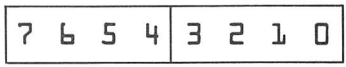
Cursor Positioning

—Line Code—		———Column Code———			
Line	Char.	Col.	Char.	Col.	Char.
1	Space	1	Space	21	4
2	!	2	!	22	5
3	"	3	"	23	6
4	#	4	#	24	7
5	$	5	$	25	8
6	%	6	%	26	9
7	&	7	&	27	:
8	'	8	'	28	;
9	(	9	(	29	⟨
10	)	10	)	30	=
11	*	11	*	31	⟩
12	+	12	+	32	?
13	,	13	,	33	@
14	–	14	–	34	A
15	.	15	.	35	B
16	/	16	/	36	C
17	0	17	0	37	D
18	1	18	1	38	E
19	2	19	2	39	F
20	3	20	3	40	G
21	4				
22	5				
23	6				
24	7				
25	8				

If a line or column code falls outside the valid value range, the invalid code is replaced by the valid code of nearest magnitude.

Screen Color Control

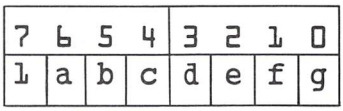
An ⟨ESC⟩⟨k⟩⟨colors⟩ sets the foreground/background colors for the current screen. The value for colors specifies the new screen colors. The most significant nybble (bits 7-4) selects the foreground color. The least signifigant nybble (bits 3-0) selects the background color. The colors are indicated as follows:



0000 - Green
0001 - Yellow
0010 - Blue
0011 - Red
0100 - Buff or White
0101 - Cyan
0110 - Magenta
0111 - Orange
1000 - Black

Graphics Mode

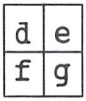
An ⟨ESC⟩⟨G⟩⟨4⟩ is used to enter semigraphics 2 x 2 mode. In this mode the parity bit is used to distinguish between graphic and ASCII characters. If the parity bit is zero, the character is a standard ASCII character. If the parity bit is one, the character is a graphics characters. The format of a graphic character (byte) is:



Bits "abc" define the color as follows:

000 - Green
001 - Yellow
010 - Blue
011 - Red
100 - Buff or White
101 - Cyan
110 - Magenta
111 - Orange

Bits "defg" define the graphic character as a set of four picture elements. A one bit sets a picture element on. The bits map to the picture elements as follows:



An ⟨ESC⟩⟨G⟩⟨N⟩ is used to enter text mode. All received characters will be treated as ASCII.

Received ESCAPE Sequences Summary

The following table summarizes the function of escape sequences recognized by VIDTEX. These functions occur only when the escape sequence is received from the host computer. These functions cannot be typed from the keyboard as local commands.

⟨**ESC**⟩⟨**A**⟩ Cursor up

⟨**ESC**⟩⟨**B**⟩ Cursor down

⟨**ESC**⟩⟨**C**⟩ Cursor right

⟨**ESC**⟩⟨**D**⟩ Cursor left

⟨**ESC**⟩⟨**G**⟩⟨**4**⟩ Semi-graphics 4 mode

⟨**ESC**⟩⟨**G**⟩⟨**N**⟩ Text mode

⟨**ESC**⟩⟨**H**⟩ Home cursor

⟨**ESC**⟩⟨**J**⟩ Clear to end of page

⟨**ESC**⟩⟨**K**⟩ Clear to end of line

⟨**ESC**⟩⟨**Y**⟩⟨**line**⟩⟨**col**⟩ Position cursor

⟨**ESC**⟩⟨**b**⟩ Lock keyboard

⟨**ESC**⟩⟨**c**⟩ Unlock keyboard

⟨**ESC**⟩⟨**e**⟩ Disable display

⟨**ESC**⟩⟨**f**⟩ Enable display

⟨**ESC**⟩⟨**j**⟩ Clear page

⟨**ESC**⟩⟨**k**⟩⟨**colors**⟩ Set foreground/background colors

⟨**ESC**⟩⟨**ESC**⟩⟨**O**⟩ Open RAM buffer

⟨**ESC**⟩⟨**ESC**⟩⟨**C**⟩ Close RAM buffer

⟨**ESC**⟩⟨**ESC**⟩⟨**Z**⟩ Zero RAM buffer

⟨**ESC**⟩⟨**ESC**⟩⟨**V**⟩ Transmit RAM buffer

⟨**ESC**⟩⟨**ESC**⟩⟨**Y**⟩⟨**pmt**⟩ Transmit RAM buffer with prompt

ASCII Control Characters

VIDTEX responds to the ASCII control characters BS (BackSpace), HT (Horizontal Tab), LF (Line Feed), FF (Form Feed) and CR (Carriage Return).

Printer Control Character Conversion

VIDTEX converts printer control characters as follows:

Tab equivalent number of spaces

Line Feed Since most printers automatically line feed, no line feed is sent to the printer unless otherwise specified (see Program Customization).

Form Feed translated to top of form character

Note: Graphic characters are printable on a Commodore serial printer or equivalent.

Using Half Duplex With CompuServe

The chance of communications errors is greater at 1200 baud than at lower rates because the Commodore 64 microprocessor itself is used to process both incoming and outgoing serial signal levels.

In full duplex each keyboard entry is echoed by the host. The microprocessor in this mode must both transmit each character to the host and receive the echoed character. The burden on the microprocessor can be eased in this situation by switching to half duplex mode since VIDTEX will take over echoing your keyboard entries.

To eliminate host echo at 1200 baud, the following steps must be taken:

1. The CompuServe host can be placed in half duplex in one of two ways:

   a) Precede your User ID with the letter "H" when logging on (e.g., "User ID: H70001,11").

   b) Access the Programming Area (OK prompt) and enter: HALFD. (To return to full duplex enter: FULLD.)

2. Having placed the host in half duplex, press **META Q** and select half duplex (see Communication Settings). Do not switch your modem to half duplex.

Once VIDTEX and the host are in half duplex, the reliability of function key and RAM buffer transmissions should improve dramatically at 1200 baud.

Note: half duplex may not be suitable when accessing some host programs.

Disk Usage

VIDTEX translates all upper case letters in file names to lower case. Most disk files created by VIDTEX are sequential (SEQ) files. A program (PGM) file can be specified by placing " ,p" after the output file name.

META S Editing

When the RAM buffer is saved to disk with a **META S**, it is edited as follows:

- semigraphic characters are converted to equivalent CBM graphics including color control
- **CR/LF** is converted to CR
- single LF's are converted to cursor downs
- all bell characters **CTRL G** are passed to disk
- backspaces are converted to cursor left characters
- tabs are replaced by multiple spaces
- form feeds are replaced by the clear screen character
- all other CONTROL characters are discarded
- the text color saved is the currently selected text color

Appendix A

ASCII Character Set

ASCII Character	OCTAL Code	HEX Code	DECIMAL Code
CTRL-SHIFT-P	000	00	000
CTRL-A	001	01	001
CTRL-B	002	02	002
CTRL-C	003	03	003
CTRL-D	004	04	004
CTRL-E	005	05	005
CTRL-F	006	06	006
CTRL-G	007	07	007
CTRL-H	010	08	008
CTRL-I	011	09	009
CTRL-Jor LINE FEED	012	0A	010
CTRL-K	013	08	011
CTRL-L	014	0C	012
CTRL-M or RETURN	015	0D	013
CTRL-N	016	0E	014
CTRL-O	017	0F	015
CTRL-P	020	10	016
CTRL-Q	021	11	017
CTRL-R	022	12	018
CTRL-S	023	13	019
CTRL-T	024	14	020
CTRL-U	025	15	021
CTRL-V	026	16	022
CTRL-W	027	17	023
CTRL-X	030	18	024
CTRL-Y	031	19	025
CTRL-Z	032	1A	026
ESC	033	1B	027
FS	034	1C	028
GS	035	1D	029
RS	036	1E	030
US	037	1F	031
space	040	20	032
!	041	21	033
"	042	22	034
#	043	23	035

ASCII Character	OCTAL Code	HEX Code	DECIMAL Code
$	044	24	036
%	045	25	037
&	046	26	038
'	047	27	039
(	050	28	040
)	051	29	041
*	052	2A	042
+	053	2B	043
,	054	2C	044
-	055	2D	045
.	056	2E	046
/	057	2F	047
0	060	30	048
1	061	31	049
2	062	32	050
3	063	33	051
4	064	34	052
5	065	35	053
6	066	36	054
7	067	37	055
8	070	38	056
9	071	39	057
:	072	3A	058
;	073	3B	059
<	074	3C	060
=	075	3D	061
>	076	3E	062
?	077	3F	063
@	100	40	064
A	101	41	065
B	102	42	066
C	103	43	067
D	104	44	068
E	105	45	069
F	106	46	070
G	107	47	071
H	110	48	072
I	111	49	073
J	112	4A	074
K	113	4B	075
L	114	4C	076
M	115	4D	077
N	116	4E	078
O	117	4F	079
P	120	50	080
Q	121	51	081
R	122	52	082
S	123	53	083
T	124	54	084
U	125	55	085

ASCII Character	OCTAL Code	HEX Code	DECIMAL Code
V	126	56	086
W	127	57	087
X	130	58	088
Y	131	59	089
Z	132	5A	090
[	133	5B	091
\	134	5C	092
]	135	5D	093
↑	136	5E	094
←	137	5F	095
↖	140	60	096
a	141	61	097
b	142	62	098
c	143	63	099
d	144	64	100
e	145	65	101
f	146	66	102
g	147	67	103
h	150	68	104
i	151	69	105
j	152	6A	106
k	153	6B	107
l	154	6C	108
m	155	6D	109
n	156	6E	110
o	157	6F	111
p	160	70	112
q	161	71	113
r	162	72	114
s	163	73	115
t	164	74	116
u	165	75	117
v	166	76	118
w	167	77	119
x	170	78	120
y	171	79	121
z	172	7A	122
{	173	7B	123
|	174	7C	124
}	175	7D	125
~	176	7E	126
delete	177	7F	127

Appendix B

Control Character Functions

The following summarizes the CONTROL characters to which CompuServe responds:

To send a CONTROL character, hold down the CTRL key and press the appropriate letter.

CTRL A suspends output being displayed by CompuServe at the end of the current line. Repeated issuance of CTRL A causes successive lines of output to be displayed, one line at a time. Running output is turned back on with a CTRL Q.

CTRL S suspends output immediately.

CTRL Q restores the running display of output at the point where it had been interrupted by a CTRL A or CTRL S.

CTRL C interrupts display or a program's execution so that you can enter another menu selection or command. ("^C" is displayed on your screen.)

CTRL B is used as a type-ahead CTRL C, forcing an interrupt when CompuServe requests input. ("^B" is displayed.)

CTRL P interrupts display or a program's execution so that you can enter another command to the program. ("^P" is displayed.)

CTRL H backspaces, deleting the character that was there.

CTRL U deletes the line currently being typed. ("^U" is displayed.)

CTRL V redisplays the line you currently are typing. ("^V" is displayed.)

CTRL O tells the host to turn off output currently being displayed. A subsequent issuance restarts output at a later point in the transmission ("fast forward"). ("^O" is displayed.)

Note: If host transmission seems to stop abruptly at any time, be sure to press CTRL Q to ensure that the host has not halted output due to a CTRL S.

Keyboard Control Characters

A subset of control characters is available to you during certain META key functions. During RAM buffer display the following are valid: CTRL A, CTRL S, CTRL Q and CTRL O. At any file name prompt you can press CTRL H, CTRL U and CTRL C.

Appendix C

Glossary of Terms

This Glossary defines some of the more frequently used terms associated with terminal communications.

ASCII
An acronym for American Standard Code for Information Interchange. Represented in the ASCII character set are 96 printable and 32 non-printable (control) characters.

baud rate
Refers to the number of bits transmitted or received per second. For example, 300 baud = 300 bits per second. The actual number of characters sent depends on how many data, stop and start bits comprise each character. Generally, 300 baud = 30 characters per second.

binary file
A type of file that contains data which is not necessarily printable. Generally, binary files are used to hold executable programs.

bit
A contraction of BINARY DIGIT, a bit is the smallest unit of information in the binary numbering system. A choice between two possible states, ON and OFF or zero and one, is represented in a bit.

buffer
A storage area for information. VIDTEX reserves a portion of your computer's memory to be used as a RAM buffer.

byte
Eight bits which are interpreted as one unit of data. One character, such as the letter "A", is represented internally in a byte during data communications.

carrier
Transmission of data over the telephone line is accomplished by modulation of the carrier signal.

database
A collection of information which is stored on the computer.

defaults
Settings telling your terminal specific ways to respond. For example, how many lines on a screen you want to have displayed while scrolling, the first page to see after logon, the number of characters to delay after issuing a command, etc. These default setting can be made permanent or can be in effect for the current session only.

disk storage
Refers to the storing or saving of data in the CompuServe Information Service Programming Area on a device called disk. The data can then be retrieved for use. Each customer is allocated 128,000 characters of disk space. Additional storage can be requested through Feedback.

DISPLAY
The program which accesses the menu from the Programming Area.

download
The process of transferring a file of data from your on-line disk storage to your own personal computer system.

EMAIL
The CompuServe Information Service Electronic Mail program.

Executive
See VIDTEX.

FEEDBK
The program which enables you to provide your comments, ask questions or get help with a problem from Customer Service.

file
A collection of data, uniquely identified by a name and optionally an extension.

FILGE™
CompuServe's FIle Generator and Editor which is used for creating and modifying files, for use in EMAIL, the Bulletin Board, and the Programming Area files.

Full Duplex
Used in this manual, means that the echoing of keyboard entries is handled by the network and not by VIDTEX.

hardcopy
A printout or a paper copy of computer data.

host
The CompuServe computer to which you are connected.

initial page
The first page of information which is displayed after logon.

job
A user's individual session while logged onto the CompuServe computer.

logoff
The sequence of events which disconnects you from the host computer.

logon
The sequence of events which connects you with the host computer.

menu
Refers to the item choices from which you may select a page to be displayed in the Videotex Area.

network
The communications link equipment that enables you to connect to CompuServe's computers in Columbus, Ohio. CompuServe operates its own network in most major cities in the 48 contiguous United States. Access from other cities in the U.S. and Canada is available through a supplemental network (such as TYMNET, TELENET or DataPac) at an additional communications surcharge.

node
A specialized communications computer which allows many terminals to communicate through the same line to CompuServe's large computer complex in Columbus, Ohio.

OK
The prompt which is used in the Programming Area to indicate readiness to accept a command.

page
Any one of the 16-line displays that appear on your terminal.

password
A unique set of characters that secures entry into the service for a unique User ID. Your password is your key to safeguarding your data and usage charges. You are responsible for all usage by your User ID. The CompuServe Information Service strongly recommends that you keep your password in a secure place separate from your User ID and never give it to anyone, verbally or through the service. The most secure password consists of two non-related words connected with a symbol.

program
A set of machine instructions which the computer uses to perform a defined function. References to particular programs used on the CompuServe Information Service are made by program name, such as EMAIL, FEEDBK, DISPLAY. When a program is requested, the host computer loads and executes (runs) the specified set of instructions (program).

prompt
The message which is displayed to alert you that the computer is waiting for input. For example, Key M for menu! in the Videotex Area, or OK in the Programming Area.

protocol
A computer communications convention for transferring data between a sender and receiver.

RS-232
A commonly used interface between a computer terminal and a modem. Since the computer deals with bytes and the modem only with bits, the RS-232 interface provides a way to "serialize" data sent to the modem.

screen
Refers to one video page of information.

SIGS
The program which accesses the Special Interest Groups area. The SIGS offering contains many groups with mutual special interests which have been given a unique area to allow members to communicate with each other.

SOFTEX
The name for the SOFTware EXchange program which allows a user who is equipped with the proper version of VIDTEX to purchase programs on-line that can be run on his/her personal computer. These programs can be downloaded to the personal computer system upon purchase.

SYSOP
An acronym for SYStem OPerator, who is the person responsible for maintaining a SIG on CompuServe.

terminal
A keyboard and printing or display mechanism used to enter data into a computer and to display output from a computer. A microcomputer which is running terminal emulation software is considered to be a terminal.

upload
The process of transferring a file from your personal computer system to a host system.

User ID
A unique number assigned to your account that, when used with the correct password, allows access to the CompuServe Information Service. For example, 77777,777.

Videotex
An easy to use interactive menu formatted system for accessing remote databases or programs. On CompuServe, the Videotex format is in pages of text.

VIDTEX
A terminal emulator program which is designed specifically for use with the CompuServe Information Service and which is in the CompuServe Videotex format. VIDTEX software is sold through computer dealers and through the CompuServe Information Service on-line product ordering area.

Appendix D

VIDTEX Reference Sheet

META Key Functions

Ram Buffer	G Get Screen
O Open	C Close
Z Zero	L Load
D Display	P Print
S Save	U Unedited Save
V Transmit	Y Transmit W/Prompt
Used: 00000	Free: xxxxx

Local Control	
E Enable Clean	B Break Words
R Printer On	T Printer Off
: Print Screen	CLR Clear Screen

Miscellaneous	X Exit
A Abort	F Function Keys
H Help	M Menu
I New Logon	J Old Logon
N Scratch File	*Catalog

Q Query/Set Status
@Dial CBM AUTOMODEM
Press your choice
or ⟨RETURN⟩ for terminal mode

Key Definitions

CTRL	Control key
COMMODORE	META key
RUN/STOP	Control C
English Pound	Escape
CRSR down	Line Feed
CRSR right	Tab
INST/DEL	Backspace

CTRL and ! = |
({
) }
- ~
POUND \
INST/DEL Delete

F 1 to F 8 Function Keys 1 to 8

Local Color Control
META and , Text
. Background
/ Border
Key ⟨RETURN⟩ for terminal mode

META 0 Menu options

Duplex
F - Full duplex
H - Half duplex

Modem Baud Rate
1 - 50 Baud
2 - 75 Baud
3 - 110 Baud
4 - 134.5 Baud
5 - 150 Baud
6 - 300 Baud
7 - 600 Baud
8 - 1200 Baud

Disk Num.
8 - Device 8
9 - Device 9

Flow Control
Y - Enable flow control
N - Disable flow control

Parity
0 - Set parity bit to zero
1 - Set parity bit to one
E - Even parity
O - Odd parity
D - Disable parity

Stop Bits
1 - Use one stop bit
2 - Use two stop bits

CompuServe

5000 Arlington Centre Boulevard
Post Office Box 20212
Columbus, Ohio 43220
800/848-8990 (contiguous U.S.)
614/457-8650 (Ohio)

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